



# S. A. Meier Co. of Milwaukee, Inc.

230 James Street, A-1 / Wales, WI 53183  
Tel: 262 968-4950 / 800 657-0798  
Fax: 262 968-4970 / Email: [sales@samco-inc.com](mailto:sales@samco-inc.com)



ISO 9001:2000 Registered

*Supplier of Quality Force Measuring & Weighing Equipment Since 1932*

## APPLICATION NOTE

No. 5

### Types of Report Of Tests

6/3/2009

S. A. Meier Co. of Milwaukee, Inc. offers three types of reports of tests, also known as calibration certificates. They are:

- long form, one or multiple pages per device
- long form, more than one device per page
- short form

All types are the result of verification and calibration of devices within our scope and have the following in common:

- unless otherwise noted, NIST traceable standards are used
- at least two runs are made both in verification (as found) and in calibration (as left)
- multiple points are tested
- HB 44 is used as a guide to weights that must be applied

### Long form, one or multiple pages per device:

This form is the most commonly used and provides complete information regarding the equipment under tests, the standards used, information regarding the standards, Load applied, Initial Readings (aka as found) and Adjusted Readings (aka, "as left"). If no adjustments are made on the equipment, the Adjusted Readings are left blank. Adjustments are made if the equipment is not within specification or as defined by HB-44 or the manufacturer of the equipment. There is a report charge for each device.

<b>S. A. MEIER CO. OF MILWAUKEE, INC.</b> 230 James Street, A-1 · Wales, WI 53183 <b>REPORT OF TEST</b>		 ISO 9001:2000 Registered		
<b>CUSTOMER:</b> _____	<b>CAL DATE</b> January 13, 2009			
<b>ADDRESS</b> _____	<b>DUE DATE</b> April 13, 2009			
<b>CITY, STATE, ZIP</b> _____				
<b>MODEL #</b> <u>AND, EK 600G</u>	<b>SERIAL #:</b> <u>J7920588</u>	<b>CUSTOMER ASSET#:</b> <u>NA</u>		
<b>CAPACITY:</b> <u>600g x 0.1g</u>	<b>ACCURACY:</b> <u>+ 0.1 grams</u>			
<small>THIS IS TO CERTIFY THAT THE INSTRUMENT IDENTIFIED ABOVE HAS BEEN TESTED ON THIS DATE, AND AT THE TIME OF TESTING WAS FOUND ACCURATE TO OR ADJUSTED TO THE MANUFACTURER'S ACCURACY/ ACCEPTANCE CRITERIA STATED ABOVE.</small> <small>THIS REPORT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF S.A. MEIER CO. OF MILWAUKEE, INC.</small> <small>Class F weights are traceable to NIST through the State of WI W&amp;M Lab, a NIST-certified lab whose weights are traceable to NIST and under control re: NIST Handbook 105-1, State Test #905-407, Gram weights NIST #B22-266936-02, B22-272803-06, Gauge block NIST Ref. Cert #1008630574, 1000505693 Hygrometer NIST Traceable Reference 3354, 1000201367, 4000-1396647, NVLAP 200582-0 Stop Watch NIST Ref. Cert. # 1000182559 V-Cal &amp; load cells - NIST+ MMAP #273-A N.S. 12376, SPT 01/07992. All standards maintained in accordance with ANSI/NCSL Z540-1. Standards are due for calibration between December 2008 and December 2010</small> <small>Unless otherwise noted, total uncertainty ratios are four to one or greater. Cases where the total uncertainty ratios are less than four to one will be documented in the results of this certificate</small>				
<b>Temperature:</b> 77°F	<b>Relative Humidity:</b> 18%	<b>Procedure #</b> WI-01 <b>Report of Test #:</b> GM71356		
<b>Standards Used:</b> 9657147, 3, 4, SAM-WS2				
<b>LOAD APPLIED</b>	<b>INITIAL READING</b>	<b>RESULT</b> <b>ADJUSTED TO READ</b> <b>RESULT</b>		
20g Compression	20.0g	PASS		
50g Compression	49.9g	PASS		
100g Compression	99.9g	PASS		
200g Compression	199.9g	PASS		
400g Compression	399.9g	PASS		
600g Compression	599.9g	PASS		
<b>MAXIMUM HOLD:</b>	NA			
<b>ZERO REPEATABILITY:</b>	OK			
<b>UNITS CONVERSION:</b>	OK			
<b>MISC. COMMENTS:</b>	Calibration checked and verified			
<b>PERFORMED BY:</b>	<b>TITLE:</b> President			



# S. A. Meier Co. of Milwaukee, Inc.

230 James Street, A-1 / Wales, WI 53183  
Tel: 262 968-4950 / 800 657-0798  
Fax: 262 968-4970 / Email: [sales@samco-inc.com](mailto:sales@samco-inc.com)



ISO 9001:2000 Registered


Supplier of Quality Force Measuring & Weighing Equipment Since 1932

## APPLICATION NOTE

Long form, multiple devices per page:

This format is similar to the previous form and all of the same information is provided. Usually, three devices per test page is the maximum of what will fit while still providing traceability. This format provides complete information regarding the equipment under tests, the standards used, information regarding the standards, Load applied, Initial Readings (aka as found) and Adjusted Readings (aka, as left). If no adjustments are made on the equipment, the Adjusted Readings are left blank. Adjustments are made if the equipment is not within specification or as defined by HB-44 or the manufacturer of the equipment.

The disadvantage to this form is usually three devices are on one page with one standards listing for all of the standards used. This form is best suited when many devices of that same capacity are tested thereby, using the same standards. There is a per page charge for this type of report making it less expensive than the Long form, one or multiple pages per device report. Below is an example:

<b>S.A. Meier Company of Milwaukee, Inc.</b>		<b>Report of Test # :MED2147</b>		 ISO 9001:2000 Registered			
<b>Customer Address</b>		<b>Calibration Date</b>	NOVEMBER 11, 2006	<b>Date Due</b>	FEBRUARY 21, 2007	<b>Interval</b>	3 MONTH
<b>Mfg</b>	OHAUS	<b>Standards Used</b>	96038620, 3, 4,	<b>Load Applied</b>	20g	<b>Initial 1</b>	20.0g
<b>Model</b>	SCOUT PRO				200g	<b>Initial 2</b>	20.0g
<b>Serial #</b>	7124120596		SAM-WS2		200.0g	<b>Adjusted 1</b>	200.0g
<b>Capacity</b>	600g x 0.1g				400g		400.0g
<b>Accuracy</b>	± 1 division				600g		600.0g
<b>Temp.</b>	63°F	<b>Zero Repeatability:</b>	+/- 0				
<b>RH</b>	57 %	<b>Misc. Comments</b>	Checked and verified calibration				
<b>Mfg</b>	OHAUS	<b>Standards Used</b>	96038620, 2, 3, 4,	<b>Load Applied</b>	20g	<b>Initial 1</b>	20.0g
<b>Model</b>	SCOUT				200g	<b>Initial 2</b>	20.0g
<b>Serial #</b>	BJ352311		SAM-WS2		200.1g	<b>Adjusted 1</b>	200.0g
<b>Capacity</b>	600g x 0.1g				400g		200.0g
<b>Accuracy</b>	± 1 Division				400.1g		400.0g
<b>Temp.</b>	63°F	<b>Zero Repeatability:</b>	+/- 0				
<b>RH</b>	57%	<b>Misc. Comments</b>	Checked and verified calibration				
<b>Mfg</b>	OHAUS	<b>Standards Used</b>	96038620, 3, 4,	<b>Load Applied</b>	20g	<b>Initial 1</b>	20.0g
<b>Model</b>	SCOUT				200g	<b>Initial 2</b>	20.0g
<b>Serial #</b>	BJ390582		SAM-WS2		400g	<b>Adjusted 1</b>	400.1g
<b>Capacity</b>	600g x 0.1g				400g		400.1g
<b>Accuracy</b>	± 1 Division				600g		600.1g
<b>Temp.</b>	63°F	<b>Zero Repeatability:</b>	+/- 0				
<b>RH</b>	57 %	<b>Misc. Comments</b>	Checked and verified calibration				

THIS IS TO CERTIFY THAT THE INSTRUMENT IDENTIFIED ABOVE HAS BEEN TESTED ON THIS DATE, AND AT THE TIME OF TESTING WAS FOUND ACCURATE TO OR ADJUSTED TO THE MANUFACTURER'S ACCURACY/ ACCEPTANCE CRITERIA STATED ABOVE.

Class F weights are traceable to NIST through the State of WI W&M Lab, a NIST-certified lab whose weights are traceable to NIST and under control re: State Test #W03-347, W03-346; Gram weights: NIST #822/266926-02, Ring force gauge Test #NIST #822/254341-94, 822/254148-94, 822/254480, Gauge block NIST Ref. Cert.#1000423603, SO-243819, Hygrometer NIST Ref 4000-399410, 4000-245150, NVLAP 200582-0, Stop Watch NIST Ref. Cert. # 1000457680, 1000457735, V-cal NIST# MNAP #221A M.S.12372, SFT.01/107932, All standards maintained in accordance with ANSI/NCSL Z540-1. Standards are due for calibration between August 2005 and November 2007.

Unless otherwise noted, total uncertainty ratios are four to one or greater. Cases where the total uncertainty ratios are less than four to one will be documented in the results of this certificate.

Performed By: *Daniel Nowotny*, Service Technician  
Daniel Nowotny

S. A. Meier Company of Milwaukee, Inc. • 230 James Street, A1 • Wales, WI 53183 • 262 968-4950 • Fax 262 968-4970

SAM057 Rev. 4 01/05



# S. A. Meier Co. of Milwaukee, Inc.

230 James Street, A-1 / Wales, WI 53183  
Tel: 262 968-4950 / 800 657-0798  
Fax: 262 968-4970 / Email: [sales@samco-inc.com](mailto:sales@samco-inc.com)



ISO 9001:2000 Registered

*Supplier of Quality Force Measuring & Weighing Equipment Since 1932*

## APPLICATION NOTE

### Short form:

This is a basic report listing the equipment tested, the id or serial number, the range of weight or mass applied, the as found condition, as left condition, and at a minimum the temperature. Although NIST traceable standards are used, they are not listed on this hand written report. This type of report is generally used for scales that are not critical to the traceability of the specimen weighed. Adjustments (as left) are made under the same criteria used with the other types of reports. This report has no additional charge. Below is an example with some explanation:

**S. A. Meier Co. of Milwaukee, Inc.**  
230 James Street, A-1 / Wales, WI 53183  
Tel: 262 968-4950 / 800 657-0798  
Fax: 262 968-4970 / Email: [samco@execpc.com](mailto:samco@execpc.com)  
Supplier of Quality Force Measuring & Weighing Equipment Since 1932

ISO 9001:2000 Registered

---

**FIELD SERVICE REPORT**

Date: \_\_\_\_\_ Customer PO \_\_\_\_\_  
Company: \_\_\_\_\_ Address: \_\_\_\_\_  
Contact: \_\_\_\_\_ Address: \_\_\_\_\_  
Phone: \_\_\_\_\_ Cal interval: 3 months

**"SPECIFICATIONS: UNLESS OTHERWISE NOTED ARE ± 1 DIVISION"**

TYPE	SERIAL #	INPUT VALUE	AS FOUND	AS LEFT	TEMP/RH
AND	00352196	0-600 G x 0.1	± ① DIV X 2		69°F 30% RH
AND	00352198	0-600 G x 0.1	- 4 DIV X 2	± ① DIV X 2	↓
Ohaus	#01	0-600 G x 0.1	- 235 DIV X 2	± ① DIV X 2	
GEE	7329150.8	0-300 # x 0.1 #	- 38 DIV X 2	will not calibrate - Ass. by L.S. O.L.	
Shadnagah	43892	0-5 # x 1/4 oz	± ① DIV X 2		↓

Authorized By: HPD  
Date: 9-18-08

*We Stock, Service & Calibrate What We Sell*

PR-13G Release 8/31/07 Page 1 of 1

Input value is the range of values applied; specific weights or masses are not shown.

As found is shown in the maximum range of divisions the device was found. A division is also shown a resolution. Scales usually have a specification of +/- 1 division. In the case of the third scales on the report, it was found to be reading - 235 divisions or -225 x 0.1 g = -23.5 g at some point. It was calibrated and became in spec at +/- 1 div or 1 x 0.1 = 0.1 g.

The x 2 shows that it was tested twice. The circled value shows it was in spec.